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**Before the**
**Federal Communications Commission**
**Washington, D.C. 20054**

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

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| In the Matter of | ) | |
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| Amendment of Parts 2 and 87 of the Commission's Rules to Accommodate Advanced Digital Communications in the 117.975-137 MHz Band and to Implement Flight Information Services in the 136-137 MHz Band | ) | WT Docket No. 00-77 |
| | ) | RM Nos. 9376, 9462 |

**COMMENTS OF AERONAUTICAL RADIO, INC.,**
**AND THE AIR TRANSPORT ASSOCIATION OF AMERICA, INC.**

Aeronautical Radio, Inc. ("ARINC") and the Air Transport Association of America, Inc. ("ATA") by their attorneys, hereby submit their joint comments in support of the Commission's Notice of Proposed Rulemaking released May 15, 2000.[1]

ARINC, the communications company formed by air transport industry at the suggestion of the Federal Radio Commission, has provided radio communications services and spectrum management to domestic and international aviation for more than seventy years. In spectrum matters, ARINC is advised by the Aeronautical Frequency Committee ("AFC"), which is composed of representatives of air carriers, business aviation, general aviation, and helicopter operators.[2] The ATA is the trade association of the nation's scheduled airlines.[3]

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[1] FCC 00-160, amended, DA 00-1462, 65 Fed. Reg. 41032 (July 3, 2000).

[2] The AFC is a committee consisting of representatives of the airspace users that advises the ARINC Board of Directors on spectrum management matters. Members of the AFC include representatives of Aircraft Owners and Pilots Association (AOPA), America West Airlines, American Airlines, Continental Airlines, Delta Air Lines, Federal Express, Helicopter

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ARINC and ATA are committed to ensuring that adequate radio spectrum is available for the safe, efficient, and economic operation of aircraft and the safety of life and property in the air.

In response to petitions submitted by the Small Aircraft Manufacturer's Association ("SAMA") and the Federal Aviation Administration ("FAA"), ARINC and ATA supported many aspects of their proposals, but questioned the need to dedicate four 25 kHz channels of scarce aviation communications resources for FIS. The FCC's proposed rules follow the compromise between the FAA and private industry to provide for the use of advanced data communications throughout the VHF aeronautical mobile (R) band and accommodate FIS by using three channels from the lower half of the 136-137 MHz band and one channel, 136.500 MHz, licensed to ARINC in the aeronautical enroute service. The Commission also proposes to delete certain regulations for the use of the 136.5-137 MHz band to the extent that they were no longer in effect pursuant to the Commission's orders in Docket No. 89-295.[4] With a

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Association International (HAI), National Business Aircraft Association (NBAA), Northwest Airlines, Trans World Airways, United Airlines, United Parcel Service, and US Airways. ATA, IATA, and the Federal Aviation Administration (FAA) also send non-voting participants.

[3] ATA's members are Airborne Express, Alaska Airlines, Aloha Airlines, America West Airlines, American Airlines, American Trans Air, Atlas Air, Continental Airlines, Delta Air Lines, DHL Airways, Emery Worldwide, Evergreen International, Federal Express, Hawaiian Airlines, Midwest Express, Northwest Airlines, Polar Air Cargo, Reeve Aleutian Airlines, Southwest Airlines, Trans World Airlines, United Airlines, United Parcel Service, and US Airways. ATA's associate members are Aeromexico, Air Canada, Canadian Airlines International, KLM–Royal Dutch Airlines, and Mexicana Airlines.

[4] Amendment of Parts 2 and 87, 5 FCC Rcd 3954 (1990), *modified on recon.*, 6 FCC Rcd 2291 (1991).

few minor corrections, ARINC and ATA support the FCC's proposals and urge their prompt adoption.[5]

From the perspective of ARINC and ATA, the most important aspects of the FCC's proposed rules are the authorization of higher speed data communications in the VHF aeronautical mobile (R) band and the clarification of the status of the "special purpose" channels in the 136.5-137.0 MHz band in the Gulf of Mexico Region that were not licensed by the cutoff date established by the Commission in 1990.[6] These two changes will enable aviation to use the spectrum more efficiently to meet the growing demand for safety communications with aircraft. Last year, more than 600 million passengers boarded commercial air carriers in the United States. Air cargo is booming. Corporate and general aviation are also growing. Aviation has been careful and conservative in its use of spectrum, and these rule changes are necessary to permit aviation safety communications to continue to keep pace with the growth of air transportation.

## I. The Commission Should Adopt Its Proposed Rules to Accommodate the New Digital Broadcast FIS–with Minor Changes

On May 1, 1998, the Federal Aviation Administration adopted a policy favoring the establishment of two independent private sector systems of flight information services ("FIS") to supply graphical weather products and information to the flying public. According to the

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[5] The FAA has also reviewed the FCC's proposed rules and has informed the FCC that "[t]he FAA . . . has no objections to the referenced rulemaking." Letter from Mr. George K. Sakai, Program Director for Spectrum Policy and Management, FAA, to Ms. Magalie Roman Salas, Secretary, FCC, dated July 12, 2000.

[6] 47 C.F.R. § 87.263(a)(5).

FAA, use of these products would primarily benefit general aviation, but the basic information would be available to all aircraft at no charge. FIS is designed to operate using the new higher speed data available through VHF digital link mode two ("VDL Mode 2") with transmission speeds up to 31.5 kb/s.

To provide for this new data broadcast service, the FCC will have to amend its rules to accommodate the G1D emission designator and the appropriate frequency stability for VDL Mode 2. These standards have already been adopted internationally,[7] and the FCC's proposed rules are consistent with the Standards and Recommended Practices ("SARPs") adopted by the International Civil Aviation Organization ("ICAO").

The Commission has proposed to identify the four channels selected by the FAA and industry and to restrict use of these frequencies to ground-to-air use only. ARINC and ATA agree with this limitation, because the prohibition against aircraft transmission over the FIS frequencies is important from a spectrum management standpoint.[8] FIS is designed for continuous broadcast of data by the ground station so that the aircraft will be able "receive the entire broadcast content within minimum time (e.g., 5 minutes)."[9] If the FIS system is to provide service to general aviation aircraft traveling at altitudes of up to 20,000 feet, a 400-

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[7] III ICAO Annex 10, Part I, Chapter 6.

[8] The Commission questions the distinction between FIS used by the FAA and FIS-B used by ARINC and ATA. Flight Information Services are not limited to the specific weather advisory envisioned in this rulemaking and this is expressly a "broadcast" weather service. Hence, the name Flight Information Services - Broadcast "FIS-B." *See* FAA, Requirements Document for Flight Information Service (FIS) Data Link at 5 (Jan. 19, 1999) <http://www.faa.gov/ars/ARR/ RequirementsDocuments/FISrd.PDF>.

[9] FAA, Request for Information (RFI): Flight Information Services (FIS) Data Link Communication Services at 1 (October 1998).

nautical-mile separation is required to avoid interference to the aircraft receiver from another ground station. If aircraft transmissions are also involved at 20,000 feet, the required separation of ground station would be 800 nautical miles to avoid interference. An 800-nautical-mile separation would make frequency reuse difficult in the United States and thus significantly increase the number of frequencies needed. Using two frequencies each the stations can be established approximately 200 nautical miles apart and not receive interference from each other. Aircraft flying at altitudes above 20,000 feet, of course, would receive multiple signals from the stations operating on the ground. For this reason, the FAA also supports FIS as a one-way, ground-to-aircraft only.[10]

The FAA has awarded five-year contracts to two bidders, Honeywell International, Inc., and ARNAV Systems, Inc. The stations that will provide the service will, however, be licensed by the FCC. For the three channels 136.425, 136.450, and 136.475 MHz, the companies may be individually licensed. For the frequency 136.500 MHz, which is currently licensed to ARINC at several locations across the country, ARINC has previously agreed to be licensed pursuant to Section 87.263(a) of the Rules for the locations needed for FIS and to make the use of such stations available to the FAA's designee at no charge for the term of the FAA contract.

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[10] *Id.* at 1 ("A broadcast (one-way uplink) communications infrastructure is assumed to ensure that the least cost (most affordable) avionics for users, and to provide the best opportunity for optimal coverage with potential multiple vendors using the spectrum available."). *See* FAA, Requirements Document for Flight Information Service (FIS) Data Link ¶ 3.2.5. For this reason, the proper designation of the new service is "Flight Information Service—Broadcast" or "FIS-B."

It is important that the frequency 136.500 MHz remain in the aeronautical enroute service. The FCC's proposals for Section 86.263 properly include the frequency 136.500 MHz, but the listing of frequencies in Section 87.173 seems to be in conflict. Section 87.173 should refer to subpart I rather than subparts O and S and class of station should be FAE, not FAC and FAW.[11] Weather information is expressly permitted in the aeronautical enroute service,[12] and 136.500 MHz should continue to be governed by subpart I of the Rules.

The FCC's proposal to amend US244 should be adopted. As proposed by the FCC, US244 would continue the agreement between the FAA and FCC that the band 136-137 MHz should remain non-government, but make access to the lower half of the band available to the FAA for air traffic services, as needed. The band was designated non-government after the 1979 World Administrative Radio Conference by the FCC and NTIA.[13] Nothing has happened that would justify changing that arrangement at this time.

## II. The Growth of Aviation Requires Advanced Data Communications and Use of the Five Six "Special Purpose" Aeronautical Enroute Frequencies Reserved Not Implemented for Helicopter Flight Following by 1994

As the Commission has recognized in its proposed rulemaking, simply adopting rules to accommodate FIS does not in and of itself resolve all matters. The additional load on the limited aeronautical spectrum which would be created by an FIS and the growth of aviation

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[11] These changes in the rules proposed by the FCC can be made simply by deleting the line for 136.500 MHz in § 87.173 and changing the "136.525" in the following line to "136.500."

[12] Section 87.261(a) of the Rules defines the scope of the aeronautical enroute service to include, *inter alia*, communications relating to "fuel, *weather*, position reports, aircraft performance, and essential service and supplies." 47 C.F.R. § 87.261(a) (emphasis supplied).

[13] *See* Second Report & Order, Gen. Docket No. 80-739, 49 Fed. Reg. 2358, 2394 (1984).

requires that the use of the rest of the aeronautical spectrum be made more efficient. ARINC and ATA are struggling to meet the needs of all aviation within the current spectrum constraints. Some relief to the spectrum shortage can be made by authorizing higher speed data emissions and by clarifying the status of the five aeronautical enroute frequencies that were not used for a special purpose helicopter flight following system in the Gulf of Mexico Region by the January 1, 1994, cutoff date.

### A. The FCC Should Adopt Its Proposed Rule Changes to Permit Use of VDL Modes 2 and 3

First, as proposed, the Commission should adopt rules to accommodate VDL Mode 2 and VDL Mode 3 (G1D and G7D) throughout the VHF aeronautical mobile (R) band. ARINC and the air transport industry has already invested tens of million of dollars in the development of a new higher capacity VDL Mode 2 infrastructure. This higher capacity is necessary to accommodate the continued growth of data communications to aircraft. ARINC hopes to begin deploying service in the year 2001.

VDL Mode 3 is similar to VDL Mode 2, except that it is designed to use TDMA to create four data streams from the 31.5 kb/s data capacity of the VDL Mode 2 transmission. The four channels can be used for lower speed data or for digitized voice. The FAA plans to deploy VDL Mode 3 to increase the voice capacity of the air traffic control communications networks.

Both VDL Mode 2 and VDL Mode 3 have received international approval in the Standards and Recommended Practices (SARPs) of the International Civil Aviation Organization. As such, the two emission designators, bandwidths, and frequency stabilities as

proposed by the FCC are consistent with the ICAO SARPs. The Commission should adopt these rules.

### B. The FCC Should Clarify the Rules as to Special Purpose Aeronautical Enroute Channels to Return the Five Channels Not Implemented by 1994 to the Common Pool of Frequencies Available to Aviation

Finally, there is a need to clarify the regulations relating to frequencies reserved in 1991 for a special purpose helicopter flight following service in the Gulf of Mexico Region. The FCC designated six frequencies in 1991 for helicopter flight following systems that would be established before January 1, 1994. By January 1, 1994, only one system using one frequency 136.750 MHz data communications had been established.[14] This system is licensed to Chevron at a number of sites in the Gulf of Mexico Region. The FCC has proposed, and ARINC and ATA agree, that this system on 136.750 MHz be protected. It is in operation, and should continue to be recognized as proposed by the FCC.

The Commission, however, has also proposed to afford the same recognition in the Gulf of Mexico Region to use of 136.825 MHz as a result of a license held by Offshore Logistics, Inc., at Houma, Louisiana. This single station was first authorized on June 12, 1997, thirty-five months after the cutoff date designated by the FCC for the establishment of a helicopter flight following system in the Gulf of Mexico Region. ARINC and ATA agree that this operation should not be subject to interference by subsequent assignments on this channel, but the range of protection that would be afforded by the FCC's proposal is much greater than is required to protect helicopter operations out of Houma.

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[14] *See* Chevron Indus., Inc., 8 FCC Rcd 6672 (1993).

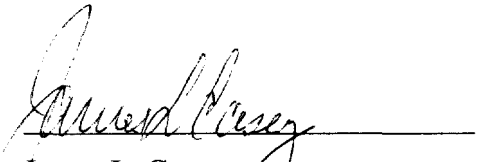
ARINC, in exercising sound frequency management, will protect Offshore Logistics' helicopter operations out of Houma, but the additional protection afforded by the FCC's proposed rules are unnecessary and contrary to the Commission's position in 1991. For these reasons, the FCC should adopt its proposed amendment to Section 87.263(a)(5) of the Rules as to 136.750 MHz, but reference in that proposed rule to 136.825 MHz should be deleted.

**Conclusion**

For these reasons, ARINC and ATA urge the Commission to adopt its proposed rules with the following two modifications: (1) § 87.173–delete the line for 136.500 MHz and change the 136.525 MHz in the next line to 136.500 MHz; and (2) § 87.263(a)(5)–delete reference to 136.825 MHz. With these two small changes, the Commission's proposed amendments to Parts 2 and 87 will serve the public interest and should be made.

Respectfully submitted,

AIR TRANSPORT ASSOCIATION OF AMERICA, INC.

By: 

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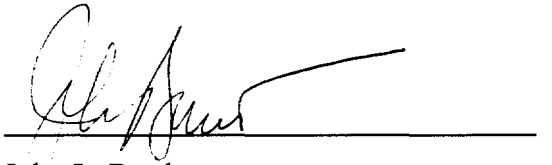
By: 

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August 2, 2000

CERTIFICATE OF SERVICE

I hereby certify that on this 2nd day of August, 2000, I caused copies of the foregoing Comments of Aeronautical Radio, Inc., and the Air Transport Association of America, Inc. to be mailed via first-class postage prepaid mail to the following:

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